



Fig. 1. *Justicia sonorae* Wassh.: A, habit  $\times \frac{1}{2}$ ; B, habit with capsules,  $\times \frac{1}{2}$ ; C, bract,  $\times 5$ ; D, bractlets and calyx,  $\times 15$ ; E, corolla,  $\times 1\frac{1}{2}$ ; F, corolla expanded,  $\times 1\frac{1}{2}$ .

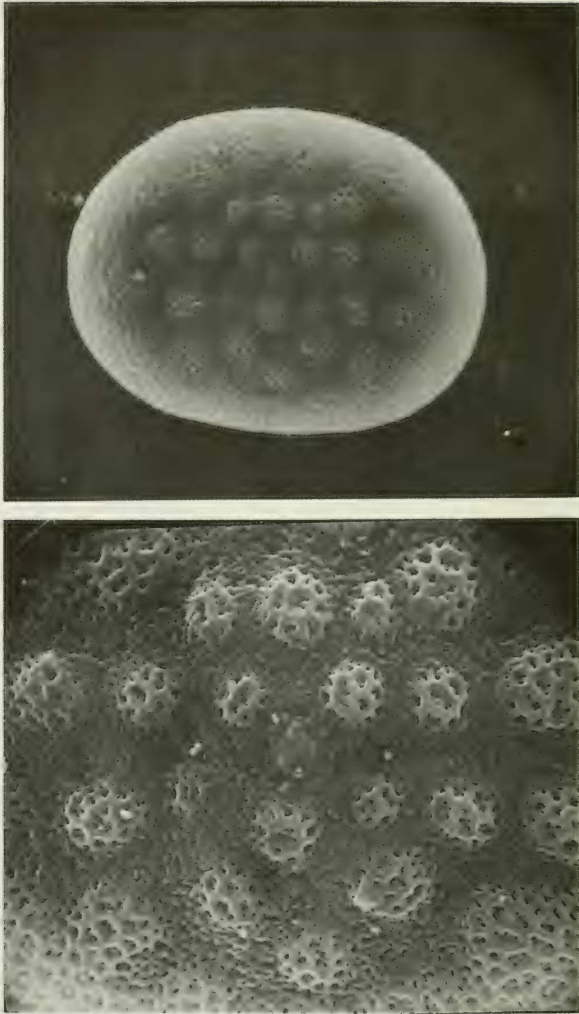


Fig. 2. Pollen grain of Justicia sonorae Washh., (R. G. Engard s.n.); above, equatorial view, x 1400; below, surface view showing the unevenly spaced insulae surrounding the aperture, x 3000.

MISCELLANEOUS NOTES ON NEOTROPICAL FLORA, XIII

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*BACCHARIS AYACUCHENSIS* Cuatr. sp. nov.

Frutex ramōsus erectus ud 2 m altus, ramis ultimis robustis striolatis, brunnescenti viridibus dense subtomentosis pilis uniseriatis crassiusculis patulis, rectis vel curvis basim versus incrassatis, basi conica, apice acuto, 0.2-0.6 (-0.8) mm longis.

Folia alterna crassiuscula subcoriacea rigidula atroviridia in sicco brunnescentia fragiliaque, breviter petiolata. Lamina lanceolata apicem attenuata acutissima, basim cuneata margine serrata dentibus antrorsis minutis callosis acutis 0.5 mm longis, 2-4 mm inter sese distantibus; pennatinervis, adaxiale plana nervis parum notatis, praecipue costa pilosa, reliqua glabra; abaxiale costa robusta eminenti nervis secundariis 10-11 paribus prominentibus, ascendentibus, arcuatis anastomosantibus, nervis tertiis et minoribus in reticulum prominulum, laxiusculum anastomosatis, costa dense crassi-pilosa, reliqua superficie sparse pilosa pilis distale setosis fragilibus apice acuto basi tuberculato-conica persistenti.

Inflorescentia corymbosa paniculata composita terminalis, 11-14 cm ampla, densa et floribundissima valde ramosa ramis ramulisque numerosis congestiusculis tomentulosis et bracteosis. Bractee foliosae, structura et forma folia simillissima, sed sursum gradatim breviores; bracteolae lineares, 5-2 mm longae. Pedicelli graciles erecti 1.5-5 mm longi tomentulosi.

Capitula feminea 6-8 mm longa, discoidea, 6-12 flores pistillatos ferentia. Involucrum tubulosum 6-7 mm longum 2-2.3 mm diametro, 26-29 phyllariis 7-8 seriatim imbricatis. Phyllaria rigide paleacea, dorso brunnescentia marginem straminea, exteriora ovata vel elliptica, minute acuteque apiculata, concava 1.8-2 x 1 mm, marginibus sursum lacerato-ciliatis, setis acutis antrorsis; interiora 5.5-6 mm longa 0.6-0.7 mm lata, acuminataque subplana, quam externa magis tenera et pallidiora. Flores feminei corolla capillari-tubulosa 3.2-3.5 mm longa apice irregulariter 5 dentata lobulis brevissimis obtusiusculis, distale pilosula pilis cellulis uniseriatis, crassiusculis antrorsis erectis vel tortuosis 0.3-1.5 mm longis. Stylus 4.6-5 mm longus corollam valde excedens apice bifidus lobis lineari-lanceolatis 0.45-0.5 mm longis, basi leviter ampliatus bulbosus. Ovarium anguste oblongum 0.8-0.9 mm longum 5-nervatum glabrum, apice obtusum, basi callosa cellulis 2-3 seriatim annularibus. Pappus in vivo candidissimus, in herbario stramineus, 5-6 mm longus sed pilis inaequilongis copiosis uniseriatis strigosis basi crassioribus breviter coalitis.

Typus: Peru, Dep. Ayacucho, Prov. La Mar: eastern Massif

of Cordillera Central opposing the Cord. Vilcabamba, between Tambo Sn. Miguel and Hacienda Luisiana; in grassland above timberline on exposed summit ridges and slopes of puna, at Punccu, 3400-3600 m alt along Inca trail c. 30 km Hacienda Sta Rosa, 10 km from Tambo; 6 ft. perennial with dark, glossy green leaves, pappus white. 24 Aug 1968, T.R. Dudley 12005, Holotype USNA; isotype US.

*Baccharis ayacuchensis* belongs to the section *Pinnatae* Cuatr. which includes *B. buddleioides* HBK and *B. pentlandii* Dc. It is well distinguished by its narrow lanceolate, acute short-petiolate leaves, the large terminal corymboid inflorescences, the narrow cylindrical involucre and the low number of female flowers.

*BACCHARIS DUDLEYI* Cuatr. sp. nov.

Frutex scandens, ramis ochraceo-viridibus breviter strigosis pilis acutis circa 0.1 mm longis, terminalibus angulato-flexuosis ramulis floriferis patulis vel reflexis. Folia alterna petiolata luteoloviridia. Lamina coriacea flexibilis in sicco viridiochracea, lanceolata elliptica, 7-12 mm longe acuminata, basi attenuata obtusiuscula vel obtusa, apice acutissima 5-11 cm longa, 2-3.5 cm lata (7-12 mm longe acuminata), margine integerrima, utrinque puberulo-strigulosa pilis crassiusculis subadpressis sparsis sed ad costum copiosis, etiam sparse glandulata, glandulis minutissimis globosis sessilibus vel immersis resiniferis, nitidisque; costa subtus prominenti nervis secundariis 6-8 utroque latere prominentibus subpatulis arcuatis anastomosantibus, nervis tertiis minoribusque laxiuscule reticulatis, reticulo minusculo prominulo bene conspicua, superficie abaxiale minute sparse glandulosa. Petioli 5-10 mm longi tereti minute striguloso-puberuli. Inflorescentiae at terminationes ramulorum, axillares et terminales, racemiformi-paniculatae valde patentes plerumque reflexae, capitulis breviter pedicellatis vel subsessilibus plerumque 3-5-glomeratis.

Capitula mascula ante anthesin (alabastra) 3.7-4.5 mm longa 1.4 mm lata cylindracea. Involucrum 20-23 phyllariis pluriseriatis imbricatis scariosis ad apicem attenuatis minute pilosiusculis, proximalibus ovatis rigidis concavis 1-1.5 x 0.2-1.2 mm, subobtusis, medialibus circa 2 x 1.2 mm ovatis subacutatis, distalibus ellipticis vel oblongo-ellipticis 2.8 x 0.6-1 mm, acutis omnibus circa apicem apiceque breviter ciliatobarbatis. Flores masculi 3-4 in capitulo. Corolla ante anthesin tubo brevissimo sed lobis 1.5 mm longis lanceolato-linearibus acutis marginibus incrassatis, abaxiale pluribus glandulis globosis circa 0.05 mm diam valde conspicuis, ad apicem plerumque 1-2 pilis unicellularibus crassis rigidis acutis erectis 0.1-0.2 mm longis. Antherae immaturae 1.5 mm basi minute auriculatae. Stylus ramis lance-linearibus acutissimis 1 mm bene liberis dense papilloso-hispidulis. Rudimentum ovarii pubescente pilis uniseriatis longiusculis.

Typus: Peru, Huánuco, southeastern slope of Rio Llulla Pichis watershed, on the ascent of Cerros del Sira, in open and

drier ridges and banks in cloud forest about halfway between Laguna and Peligroso, 1450 m, 23 Jul 1969, T.R. Dudley 13183; holotypus NA. Paratype: same locality, on edges of sharp ridges (cejas); 1350 m, high climbing prolific dense vine in dense elfin forest ("monte chico"), 24 Jul 1969, T.R. Dudley 13238; paratype, NA. Other specimens, same localities, Dudley 13045, 13173 (NA).

Baccharis dudleyi is most peculiar on account of the zig-zag shape of the fertile branchlets, the distal axillary inflorescences being strongly patent, mostly retroflex. This disposition frequently found in Archibaccharis, is rather rare in the genus Baccharis. The shape and structure of the leaves of this new species is also characteristic, the glandular punctuation, the shortly strigose puberulence, the extremely reduced number of flowers (3-4), and the features of the corolla make this species unique. Only when mature male flowers and female specimens are available will be possible to determine the true affinities of B. dudleyi within the genus.

BACCHARIS DAVIDSONII Cuatr. sp. nov.

Fruticulum parvum prostratum caespitosum interdum pulvinatum, caule valde ramoso glabro ramis ramisque intricatis, ramusculis ultimis rosulas minusculas terminales dense foliatis virides ad solum visu sessiles et congestas efferentibus. Rosulae 10-15 mm diametro, foliis numerosis cum vaginis amplectentibus congeste imbricatis, spiraleriter multiseriatis densissimeque dispositis, distale visu laeteviridibus, proximalibus vetustis marcescentibus caulem tegentibus.

Folia in totum 7-10 mm longa; lamina 4.5-6 mm longa 1.5-2 mm lata, crassa subcoriacea rigida patens, linearis apice subobtusa vel subacuta glabra adaxiale laevis subnitidaque, abaxiale tantum nervo medio profunde impresso conspicua, basi in vaginam gradatim ampliata producta. Vagina membranaceo - crassiuscula 2.4-3.5 mm longa 2-2.5 mm lata, marginibus tenuioribus hyalinis nervo medio bene notato.

Capitula solitaria terminalia a centro rosularum singula producta; mascula semiglobosa 7-8 mm alta 7-8.5 (-9) mm lata, 50-60 flores ferentia (exceptione tantum 22-24 flores). Involucrum 6-7 mm altum phyllariis rigide membranaceis 3-4-seriatis exterioribus oblongo-ovatis vel ovatis 4-4.5 x 2 mm interioribus 12-14 subsequalibus circa 5 x 1.5-1 mm, oblongo-ellipticis apice subacutatis obnibus marginibus hyalinis sursum lacerato-ciliatis dorso brunnescentibus, intimis ad apicem plus minusve purpurascensibus. Receptaculum planum plerumque 3.5-4 mm diam (-2.6 mm), alveolatum marginibus alveolorum membranaceis acute lacerato-dentatis projectionibus inaequalibus acutis 0.5-1.5 mm longis.

Corollae masculae 4.2-5 mm longae parte media copiose pilosulae pilis crassiusculis obtusis pluricellularibus biseriatis 0.05-0.4 mm longis, tubo crasso, limbo infundibuliformi lobis oblongo-triangularibus 1-1.2 mm longis abaxiale sparsis minutis pilis crassis biser-

iatis 0.005-0.1 mm longis. Antherae 1.5 mm longae basi breviter auriculatae, appendicibus apicalibus angustis acutiusculis 0.2-0.3 mm longis. Stylus crassiusculus distale dense papilloso-pilosus, apice breviter divisus. Ovarium rudimentarium brevissimum glabrum. Pappus albus setis teneris uniseriatis strigosis 4-5 mm longis, apicem ampliatis. Capitula et flores feminei ignoti.

Typus: Peru, Dept. Junin, route 20A trans-Andean from Linea to La Oroya km 125 E of Casapalca; cold boggy seepage and small stream in limestone and red clay; West slope at head of small valley 14250 ft elev.; vegetation of Chuquiraga oppositifolia, Azorella caespitosa and Distichia muscoides; cespitose stems branching underground. 11 Nov 1979, Ch Davidson a J. Jones 9000; Holotypus, US.

This Peruvian species is remarkable for its fruticulous, woody, prostrate, semisubterranean habit (cryptofrutex). The many intricate, lignous branchlets, are each terminated by a minuscule perfect crowded rosette 10-15 mm diam. They may cover the ground forming cespitose patches with each rosette very conspicuous. This taxon is closely related to Baccharis acaulis (Wedd. ex Fries) Cabrera, from the Andes of Jujuy and Salta (Argentina) and Laracaja (Bolivia). It differs by the woodier nature of the plant, and the more robust ultimate branches which support larger and thicker rosettes (up to 15 mm wide). The leaves are thick and rigid up to 10 mm long, the lamina is up to 6 mm long by 1.5 (-2) mm wide. The male heads of 7-8 (-9) mm diam are singly sitting at the center of the rosettes, usually they carry 50-60 flowers, the corollas are 4.3-5 mm long, copiously hairy at the distal part of the tube and base of the limb, and the lobes are barbate outside. In all the specimens of B. acaulis observed, the branchlets are weaker and flexuous, the rosettes are smaller (5-8 mm wide), the leaves are thinner and unequal, the distal regular leaves of the rosettes have 3-5 mm long by 0.6-0.8 mm broad, somewhat flexible lamina, whereas some of the proximal leaves are longer (up to 14-15 mm), the laminas 10-11 mm long, slender and flexuous, the sheaths are 3-4 mm long, triangular, thinly scarious and hyaline up to 3-3.5 mm wide at base. The heads in B. acaulis are about 5 mm high x 4 mm wide with 15-38 flowers, the receptacle is 1-1.5 mm wide, the phyllaries are thinly scarious, the inner ones 4 x 1.2 mm, the external ones 3.6-4 x 1.2-2.2 mm. The corollas in B. acaulis are smaller and of weaker texture, 3.2-3.5 mm long including the 0.6 mm long lobes, with fewer and shorter hairs (+0.05 mm). Specimens examined of Baccharis acaulis: Fries 701, Jujuy, Moreno 3500 mm, Argentina (US, isotype ♂). L.B. Smith 4659, Salta, San Antonio de los Cobres, Argentina (US, ♂). L.B. Smith 4666 Salta, Diego Almagro, Argentina (US, ♀). Asplund 5685, General Campers 4200, Bolivia (US, ♂).

BACCHARIS UNIFLORA (Ruiz & Pavon) Pers. Syn. Plant. 2:425. 1807.

Molina uniflora Ruiz & Pavon, Syst. Veget. 208. 1798.

Baccharis grindeliaefolia Wedd. Chl. And. 1:176-177. Nov. Type: Gay "Cordilleres du departement de Cuzco". Peru. Photo F. M.-37720.

Ruiz and Pavon (l.c. 1798) gave a short diagnosis of Molina uniflora: "Molina foliis lanceolatis serrato-dentatis confertis sessilibus, pedunculis terminalibus squamosis unifloris. Planta fruticosa, quadripedalis". I have never been able to locate a R. & P. specimen attributed to this species. The localities cited by the authors are the hills around Tarma, and also the provinces of Curis (Ica), Huichay and Tarmatambo, what means a broad area for the species, but Tarma can be considered the type locality. A recently received specimen from Bernardi collected in Cordillera Negra (Ancash) agrees with the original description, having crowded leaves, almost imbricate, elliptic lanceolate, distally serrate in one branch, almost entire in another, and having the monocephalous peduncle terminal. Also, Ferreyra 7474, in US, with three long branches monocephalous, leaves oblanceolate and minutely serrate and sometimes entire, can be well place in this R. & P. concept; collection Ferreyra 5758 is similar. A Macbride specimen (1051) collected at Tarma, identified as B. grindelifolia, has several monocephalous branches with others polycephalous, the leaves being deeply serrate-dentate. It is so with many specimens identified correctly as B. grindelifolia which type is Gay, Cuzco (Photo F.M. 37720). The observation of all available collections show that the species is polymorphic varying from many headed branchlets more or less corymboid to others with few heads or a single one; the leaves vary from broadly lanceolate or oblanceolate, deeply dentate serrate to narrowly lanceolate or sublanceolate, and with shortly serrate to subentire margins. The conclusion is that B. grindeliaefolia Wedd. and M. uniflora R. & P. are forms of the same and single species. Specimens examined: Bernardi & al 16656, Callan 4220-4300 m, Cordillera Negra, regione Huaraz, 16-X-76 (US); Ferreyra 5758, Chiquian, Ancask, 3850 m, 15-IV-49 (US); Ferreyra 7474, Tallenga-Pachapaque, Ancask 3500-2600 m, 17-V-50 (US); Riccio & La Rosa 3581, towards Marca-Huamachuco, La Libertad 3300-3400 m, 23-II-67 (US); Macbride & Featherstone 2507, Catuc, 15 miles of Huaraz 10.500 ft. 4-X-22 (US); Macbride & Featherstone 1839, Mito, 10500 ft, VIII-22 (US); Soukup 1976, Huancayo, Junin, III-43 (US); Soukup 5575, Tocto, Ayacucho, 16-II-68 (US); Macbride 3043, Rio Blanco, 1500 ft. III-23 (US); Macbride & Featherstone 1053, Tarma, 13000 ft. VI-22 (US).

#### BACCHARIS Sect CYLINDRICA Heering

In my revision of the Baccharis of Colombia (1957) I erroneously typified the section Cylindrica Heering with Baccharis tridentata Baker which in no way agrees with my own description of the referred section. At the time of the typification, I had rather in mind using B. ulicina as the type species, but some confusion occurred while copying the drafts for the final text. Ariza